GEOGRAPHIC NEWS BULLETINS

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

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Photograph © Lady Broughton

"DRAGONS"—TWELVE-FOOTERS—STALK THROUGH KOMODO JUNGLES

A prized trophy of the National Geographic Society-Smithsonian Institution East Indies Expedition is one of these ferocious but wary saurians. The largest lizard in existence, this sharp-toothed meat-eater was unknown to scientists until as recently as 1912, and is extremely rare among zoo collections. The dragon lizard brought back to the National Zoological Park, in Washington, D. C., is seven feet long (Bulletin No. 2).

HOW TEACHERS MAY OBTAIN THE BULLETINS

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General Headquarters, Washington, D. C.

Canton Created China's First Impression on World

WHEN Japanese planes bombed Canton, the "war zone" of the Orient's undeclared war was stretched almost to the southern border of China. The importance of the city is due to its rank among the giants of Far Eastern trade. Not only is Canton China's fourth largest city, but it is also the origin of much of new China's progressive thought, and the gateway to old China's colorful commerce and popular impressions.

Although 90 miles inland from England's Hong Kong on the coast, Canton exerts great influence as Chinese toll gate keeper for traffic from that British seaport. Once, when Canton boycotted the trade titan at the river's mouth, Hong Kong's commerce was nearly strangled.

When the United States first unfurled the sails of its ships of commerce, its pioneer merchant-mariners found that Canton was the only Chinese city open for business. It was also the first to welcome American missionaries. After these contacts, many Cantonese escaped overcrowding by moving to the United States.

Only Large Chinese City in Tropics

Hence early American ideas of China were often based on Canton—swarming tropical city sprawled across choked canals and green ricelands, whence came lacquered chests of tea, bolts of silk and fragrant sandalwood knicknacks studded with mother-of-pearl.

Almost forgotten, since China's exotic cargoes became fair game for all traders, are the obstacles placed before western seagoing salesmen, who were once forced to wait in the outer courts of Canton. Haughty mandarins restricted the exchange of American-grown ginseng and seaotter fur for silks brocaded with gold thread, carved ivory fans, ebony, apple-green jade, ginger, and enameled tea sets. Foreigners for years were confined within a quarter-mile square of the city's five-mile waterfront, where weapons and women were forbidden.

The city's commerce called for a customs collector as early as 700 A.D. Before Shanghai was heard of, or other treaty ports were opened, Canton was queen of foreign trade. Portuguese and British of the 17th century jockeyed for the inside track, a rivalry settled only by giving them a city apiece at the river's mouth: Hong Kong to the British, Macao to the Portuguese.

Also Called "City of the Goat"

The name Canton is a careless English version of a careless Portuguese way of saying Kwangtung, China's most southern province, of which Canton is capital. Cantonese call their home town Kwang-chow, the Broad City. For poetic variety they call it the City of the Goat, because each of the five fairy founders back in China's myth-misty dawn rode to the site on a goat.

Broad indeed is Canton, but not broad enough. Its million and a half people pack it to the bulging point. Only eight feet can be spared for street width, except on broad modern boulevards, such as those on the site of the razed city walls. Refugees from high rent move into the river, live in sampans, fish for food, plant gardens on bamboo rafts, and move to land again only for burial.

Foreigners also are river dwellers in a sense. Their settlement is on Shameen, an offshore mud bank built into an island. Traffic is still heaviest on the water, although three railways converge on the city. A lively export trade of silks and

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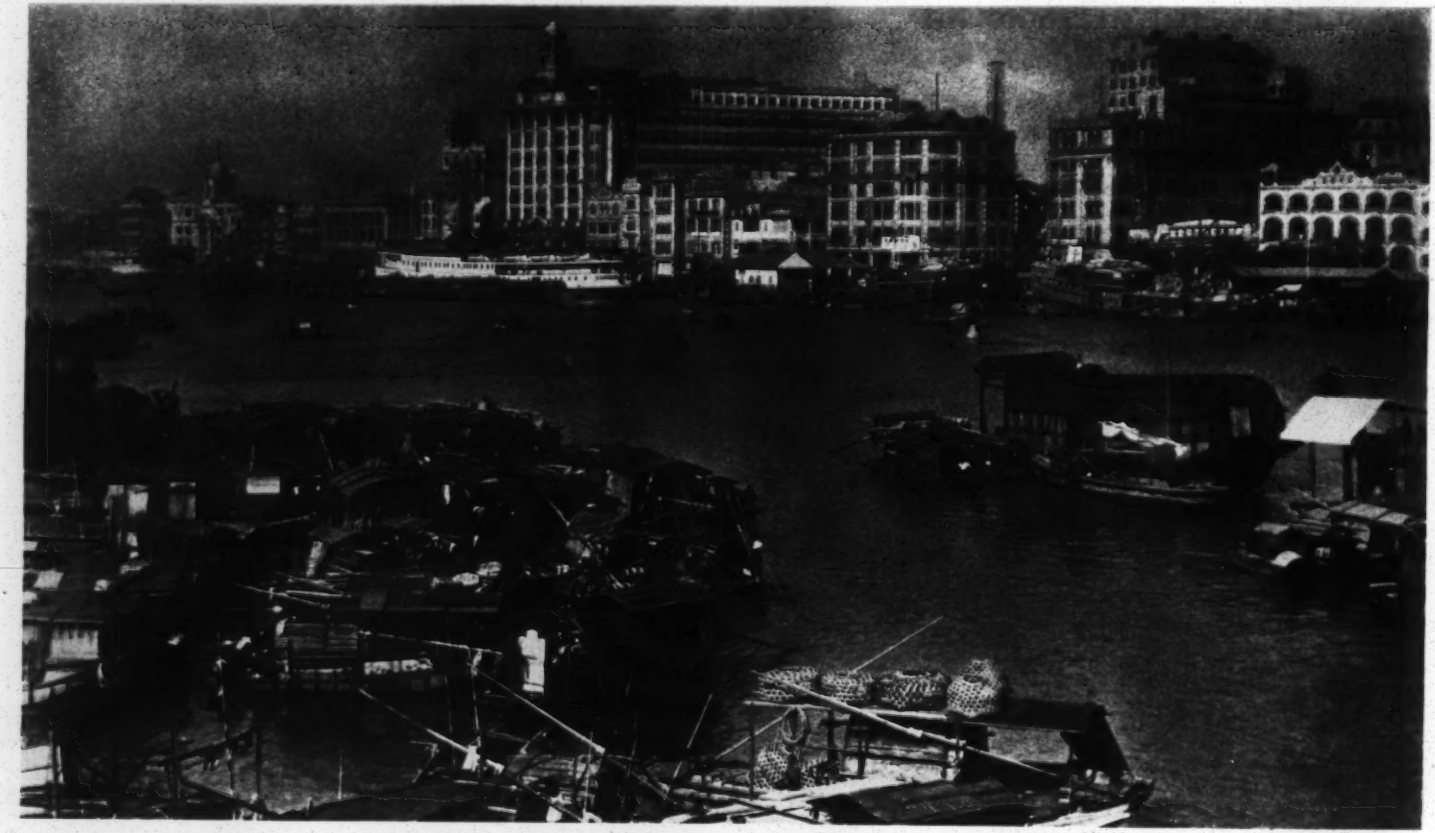

Photograph by W. Robert Moore

TWO FACETS OF CANTON: NEW CHINA ASHORE, OLD CHINA ADRIFT

Skyscrapers form a background for the river homes of a pre-Chinese race of water gypsies, the Tankas, who have been crowded out of Canton and survive by living along the Pearl River waterfront in sampans. So many Chinese have joined the aquatic colony that one estimate has given Canton a floating population of a quarter of a million. Children often wear buoys tied to their backs. Ducks are sent out to swim for their own food until called back (Bulletin No. 1).

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Modern Noah's Ark Returns with Rare Animals for Uncle Sam's Zoo

A MODERN Noah's Ark, loaded with wild animals from the other side of the world, has brought its strange and exciting cargo safely back to the United States. Some 1,000 birds, beasts, and reptiles are now stretching wings, legs, and claws in their new homes at the National Zoological Park in Washington, D. C.

The Noah's Ark was the trim freighter *Silverash*, seven weeks out of Singapore by way of Beliwan Deli, Sumatra; Bombay, India; the Suez Canal; and the Mediterranean. It carried to New York, after brief halts at Halifax and Boston, the leaders and zoological collection of the National Geographic Society-Smithsonian Institution East Indies Expedition.

Led by Dr. William Mann, director of the National Zoological Park of Washington, the expedition had been in the field nine months, gathering together perhaps the largest and most unusual assortment of wild life specimens that has ever been brought to this country in a single shipment. The National Geographic Society, with its million members, financed the expedition and the entire collection is being turned over to Uncle Sam's Zoo, now one of the most complete in the world.

Ox Hearts and Strained Honey for Food

Although Dr. Mann and his associates had many thrilling experiences while obtaining their exotic cargo in the Far East, the real saga of the trip was the return voyage of seven weeks. To keep alive and in good health the weird passenger list, which ranged from giraffes and dragon lizards to small snakes and tiny button quail, constant hard work, untiring care, and ceaseless watching were needed day and night. The thousand creatures ate tremendous quantities of food, much of which had to be specially prepared.

The ship left the Netherlands Indies with more than a ton of bananas, large quantities of hay, fresh grass, hundreds of dozens of eggs, many pounds of frozen fish and meat, and a supply of such special viands as ox hearts and strained honey. Nevertheless, it had to put into ports repeatedly for fresh supplies. Some animals had to be protected from tropical heat; others from North Atlantic cold. At Port Sudan, Egypt, the temperature reached 117 degrees Fahrenheit. Several monkeys and a bear were overcome by the heat, but were revived by liberal dousings of ice water.

Chilly weather during the Atlantic crossing and at Halifax threatened the delicate giraffes, whose cages were too large to be moved off the exposed deck and into the hull of the ship. This problem was finally solved by using high-powered light bulbs and reflectors in their stalls.

Run Gantlet of "Pirate" Submarines

Added to natural hazards was the menace of "pirate" submarine warfare in the Mediterranean. One night the *Silverash* was closely examined under brilliant searchlights by an unknown war vessel, but it was not molested. On another occasion it was warned by French radio of a floating mine in its path, and made a detour to avoid it.

One of the most valuable of the animal newcomers is a serow, a creature with the characteristics of both a goat and an antelope. He inhabits the mountains of Sumatra, the Netherlands Indies island in which the expedition had its base. Strangest of the reptiles is a giant "dragon" lizard, seven feet long, from Komodo (illustration, cover).

Following is a list of the expedition's collection, and also their places of origin:

CATS: 2 black leopards, a gift from the Crown Prince of Johore; 1 clouded leopard; 4 Asiatic leopards; 2 golden cats; 1 adult tiger (Sumatran); 1 tiger cub (Sumatran).

RUMINANTS AND SWINE: 3 tapirs; 2 African buffalo; 4 giraffes; 2 blue sheep; 5 deer (including 3 tiny, delicate mouse-deer with legs little larger than pencils); 2 gaur (Asiatic wild cattle); 2 pygmy buffalo (anoas); 1 babirusa (pig); 1 serow (a "goat-antelope").

MISCELLANEOUS ANIMALS: 2 orang-utans; 4 gibbons (small apes); 5 Moor monkeys; 5 lemurs (primitive monkeys); 2 tree kangaroos; 5 binturongs (prehensile "bear cats"); 2 hog badgers; 1 Sumatran wild dog; 1 marten; 1 otter; 5 Asiatic porcupines; 1 bamboo rat; numerous squirrels; 9 civets (a catlike creature); 6 "coconut" monkeys; 2 lutangs (rare leaf-eating monkeys); 2 Himalayan bears (presented to the expedition by Harold Coolidge of the Harvard Primates Expedition).

REPTILES: 1 Komodo "dragon lizard"; 8 crested lizards; 20 Monitor lizards; 6 Borneo gavials (crocodilelike creatures); 1 Chinese alligator; 2 king cobras; Siamese cobras; banded kraits; 20 vipers; turtles; pythons; and a Chinese salamander.

BIRDS AND FOWLS: Lories (a species of parrot); 19 birds of paradise, representing

embroideries, carved ivory and jade, tobacco and ginger, is matched by imports of rice from Siam and French Indo-China. This part of China is too crowded for even the good earth to support (illustration, inside cover).

Struggle for existence has made Canton eager to try new ideas. From this city came the new Republic's government, which finally made Nanking the capital under Dr. Sun Yat Sen, a Cantonese. A memorial to the "72 Heroes" of Canton who helped to found the Republic sets a new style in architecture, with features of the Egyptian obelisk and pyramid, a stone replica of the Liberty Bell, and a copy of the Trianon Palace at Versailles topped by a statue of New York harbor's Liberty Enlightening the World.

Progressive Canton has factories, motor boats, steel and concrete buildings, and spacious parks which are beginning to overshadow the ancient Chinese slums. Temples have been turned into schools; temple yards into tennis courts. Lingnan University, with the cooperation of the National Geographic Society, has sent expeditions into southwest China's mountainous interior for rare botanical specimens and photographs of a little-known region.

Note: See also "Changing Shanghai" and "Peacetime Plant Hunting Around Peiping," *National Geographic Magazine*, October, 1937; "Grand Canal Panorama," April, 1937; "Approach to Peiping," February, 1936; "Coastal Cities of China," November, 1934; "Glory That Was Imperial Peking," June, 1933; "From the Mediterranean to the Yellow Sea by Motor," November, 1932; "Cosmopolitan Shanghai, Key Seaport of China" and "Macao, Land of Sweet Sadness," September, 1932; "Raft Life on the Hwang Ho," June, 1932; "How Half the World Works," April, 1932; "Glories of the Minya Konka," October, 1930; "Seeking the Mountains of Mystery," February, 1930; "Life Among the Lamas of Choni," November, 1928; "Ho for the Soochow Ho," "The Geography of China," "Life Afloat in China," and "New China and the Printed Page," June, 1927; and "Farmers Since the Days of Noah," April, 1927.

Bulletin No. 1, October 18, 1937.

Photograph from George A. Morgan

A ONE-MAN BUSINESS CARRIES ON ALTHOUGH MACHINES HAVE INVADED CANTON'S SHOE INDUSTRY

This traveling shoemaker carries his stock in trade at opposite ends of a pole over his shoulder, a method once made necessary by narrow city alleys. The native shoe business fills an entire neighborhood in Canton, with shops on both sides of the street displaying footgear of black satin with thick white wooden soles; others with soles of paper in layers; others made of leather in every color.

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Asturias, the Wales of Spain

ALMOST eclipsed by heavier fighting in the Orient is Spain's 16-month-old war, which has divided Spain into three parts.

The larger—including northern, west-central and southern Spain—is in rebel hands. Northeastern and east-central Spain is controlled by the loyalist or Valencia government. The third section, a small arc near Spain's northwest shoulder and facing the Bay of Biscay, is allied with the Valencia government, but it is completely hemmed in by rebels.

This thorn in General Franco's side is Asturias, the land of Spain's men of iron. Their home is in the mountains; their work in the mines. Like the Welsh, their nature reflects the ruggedness of their native crags and deep valleys (illustration, next page).

Turned Tide of Moorish Invasion

Asturias as a political unit has vanished. It was abolished in 1833, and the province of Oviedo organized to govern the region. But Asturian tradition persists, dating from the fighting mountaineers who made life miserable for Roman legions and checked the dark flood of Moors overrunning northern Spain.

Oviedo Province, modern heir to ancient Asturias' boundaries and history, is smaller than the State of Connecticut; yet it claims to have saved the Christian civilization of Spain. Biding his time in a cave above the village of Covadonga, the Christian chief Pelayo recruited warriors from the nearby mountain glens for seven years. Then in 718 A.D. his highland fighters faced an army of Moors and started them on eight centuries of southward retreat back to Africa.

In many ways Asturias, or Oviedo Province, resembles Wales. Both are ridged with mountains shot through with black veins of coal, copper, and lead. Both are too rough for easy export of their mineral wealth. Both contain wild glens where obsolete customs and costumes survive. In Las Brañas, for example, dwell mountain shepherds who do not marry outsiders or even mix with neighbor clans.

Royal Heir Was Prince of Asturias

Both Asturias and Wales inspired the title of their kings' eldest sons. Spain's "Prince of Wales" was the Prince of Asturias. The Spanish royal title may have been directly inspired by the Welsh one, for it was created in 1388 at the suggestion of an English father-in-law of a Spanish prince.

The Cantabrian Mountains, which form a wall along most of Spain's northern coast, barricade Asturias and leave only one handy gateway, the Pass of Pajares. Here an old route still winds northward to the sea, linking Madrid with the northern port of Gijón. Ruggedness made it so expensive that Charles V described it as paved with silver. A railroad crosses here into Asturias.

Asturian forests shelter wild boars and bears, and the chamois still appears on inaccessible crags. Domestic animals, too, have strength and speed, especially the famous breed of Asturian horses. Highland pastures, fresh with rain blown in from the Atlantic, offer rich green grazing. The green of Asturias is flecked now with russet in apple orchards, which are so abundant that cider is more popular than wine.

Chief city of the Province is Oviedo, the capital, a clean market and manufac-

6 species; 12 parrots; crowned pigeons; fruit pigeons; kites; 4 storks; 50 rice birds; 10 hornbills (illustration, below); cassowaries from Ceram and New Guinea; bat parrakeets; button quail; cockatoos; maleos (lay large eggs); bower bird; barbets; cissas; pittas; fairy blue bird; Javanese jungle fowls (ancestors of chickens of America). There are more than 700 birds among the newcomers.

Geographical List of Specimens

AUSTRALIA: Cassowary, Banksian cockatoos.

NEW GUINEA: Tree kangaroos, crowned pigeons, birds of paradise, bower bird; eclectus parrots, king parrot, vulturine parrot, lories, cassowaries, giant white cockatoo.

MOLUCCAS: Cassowary, lories, hornbill, megapodes (maleos), red-crested cockatoo, amethyestine python.

KOMODO: Dragon lizard; CELEBES: Lories, crested lizards, anoa (pygmy buffalo), babirusa, hornbills; JAVA: Binturong, tantillus stork, giant squirrel, birds.

SIAM: Gibbons, crested lizards, white squirrels, leopard, clouded leopard, king cobras.

MALAYA: Tapirs, barking deer, mouse deer, black leopards.

SUMATRA: Tapir, serow, hog badger, martens, otter, cats, wild dog, lutang, binturong, squirrels, pig-tailed macaques, lories, hornbills, bulbuls, fruit pigeons, monkeys, roulrouls.

INDIA: Leopards, gaur (wild cattle), birds, cobras; CEYLON: Rock squirrel; SUDAN: Giraffe, African buffalo, Shoebill storks; EGYPT: Hedgehog, jerboa; CHINA: Blûe sheep, salamander, Chinese alligator; BORNEO: Orang-utans, gavials; BALI: Lories.

The members of the expedition, in addition to Dr. Mann, were his wife, who is a zoologist; Dr. Maynard Owen Williams, staff representative of the National Geographic Society; and Malcolm Davis and Roy Jennier, animal experts at the National Zoological Park. Dr. Williams remained in the East Indies to make additional photographic records of the region in which the animals were captured.

Note: For photographs of the native haunts of the new collection see "Modern Dragon Hunt on Komodo," *National Geographic Magazine*, September, 1936; "Greatest Voyage in the Annals of the Sea," (Magellan), December, 1932; "Among the Hill Tribes of Sumatra," February, 1930; "Into Primeval Papua by Seaplane" and "Through Java in Pursuit of Color," September, 1929; "Artist Adventures on the Island of Bali," March, 1928; "Warfare of the Jungle Folk," February, 1928; "Singapore, Crossroads of the East," March, 1926; "Sailing the Seven Seas in the Interests of Science," December, 1922.

Bulletin No. 2, October 18, 1937.

Photograph by Maynard Owen Williams

A HORNBILL IS 25% BIRD AND 75% APPETITE

Dr. William M. Mann, leader of the National Geographic Society-Smithsonian Institution East Indies Expedition, often assisted his staff in feeding and caring for the 1,000 living specimens brought back to the National Zoological Park in Washington, D. C. This odd looking bird is shown in his native home at Piroe, Ceram. Ceram is one of the Molucca group, between the Celebes and New Guinea, and one of the least known islands of the Netherlands East Indies.

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Newsprint: From Forest to Front Page

EXTRA! Extra! Canada steps up newsprint production to provide more "extras"! Advance reports show a 20 per cent increase over 1936!

When Canada makes more newsprint, that's news. For that country already leads the world in this field. Her nearest competitor, Great Britain, produces less than a third as much, and imports wood pulp to do that.

Newsprint, always behind the news, is rarely in it. The name is contradictory, for newsprint is innocent of either news or print; it is the mammoth ribbon of blank, uncut paper which is threaded into thundering presses. When it emerges, it becomes a newspaper.

Owed to Chinese Invention; No Longer Made in China

Canada's greatest asset for world newsprint leadership is a million and a quarter square miles of spruce and balsam forest. In China, where paper making developed, newsprint is not made; not the secret, but the forest, has been lost.

The distribution of forest lands freckling the face of the globe gives a chance to make newsprint to several countries which rarely make much news. Estonia, for instance, last year exported more newsprint than did the U.S.S.R. Canada also leads the world in exporting paper to feed into the maw of the international press, shipping eight times as much as her nearest exporting rival, Finland. The latter, in 1936, was the source of newsprint for fourteen countries, chiefly in Europe and South America. Newfoundland came next, shipping her pathless forests in paper form to Great Britain and the United States. Norway and Sweden, with lumbering as a major occupation, and Germany, with a tradition of careful forestry, are also among the leading exporters.

The United States, home of headline-hunters in greatest numbers, is the world's greatest consumer of newsprint. Almost half the world's output in 1936 rolled through United States presses to distribute accounts of highway accidents, battles, explosions, afternoon teas, and local elections. This country has declined steadily in newsprint manufacture, importing now about three-fourths of its needs.

Paper Making Once a Jeweler's Job

Most of this country's home-grown newsprint sprouted and spread its leaves in the neighborhood of the Canadian border, particularly in New England and the Pacific Northwest. It figures largely, however, in the industries of most paper-producing States, of which New York and Michigan are foremost. Maine, Ohio, Wisconsin, Pennsylvania, and New Jersey come next, with Washington, Illinois, and Massachusetts following. Louisiana is foremost among Gulf States which convert their fast-growing southern pine into newsprint and other paper.

In the widespread paper industry of the United States, newsprint ranks third, being surpassed by wrapping and book papers.

American production of newsprint has developed within the past 60 years, since wood pulp was pressed into service for printing paper as well as for wrapping paper about 1867. Previously straw, principally rye, made the pulp for newspapers, and on its brittle shiny surface blossomed Civil War calls to arms and black-bordered stories of Lincoln's assassination. Earlier news sheets, small and expensive, were printed on the durable linen rag paper.

Before the 18th century brought machines to relieve paper makers, the valuable commodity was made by hand. So precious was early paper, that Queen Eliza-

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turing town. Its university was founded during Shakespeare's lifetime. Its cathedral covers a rough semicircular crypt where Asturian Christians hid their religious treasures in case their lives proved not defense enough against the Moors. For modern battlefields Oviedo provides cannon.

Gijón Has Been Repairing Ships Since the Armada

Southeast of the city, the mountains carry pockets full of coal, notably around the mining towns of Langreo, Mieres, and Siero. Iron is found as coal's close companion. In fact, the most fertile part of Asturias is its rock foundation, which is the best coal field in Spain. Gold, for which Romans braved the Asturian highlands, is no longer found; but lead, zinc, quicksilver, antimony, and some copper lure modern miners and prospectors. Mountain flanks are gashed for marble, cobalt, jet, rock crystal, and lapis lazuli. At Arnao a vein of coal is pursued out under the sea.

The little manufacturing town of Aviles was birthplace of a man whose name heads an early chapter in Florida's history, Conquistador Pedro Menendez.

Leading city of the seacoast is Gijón, whose name has evolved from the Roman *Gigia* and is pronounced, or rather brayed, "Hee-hone." Emperor Charles V developed the harbor, which was soon put to the melancholy use of receiving what the British navy spared of the famous Spanish Armada. Gijón is a center for ship repairing, mainly because it is the best harbor in that area of straight rocky coast. Glass is manufactured, including bottles for the provincial drink of cider, and iron industries rival fishing as chief local occupation.

Note: Additional descriptions and photographs of modern Spain, including Asturias, are contained in "Palette from Spain," *National Geographic Magazine*, March, 1936; "Turbulent Spain," February, 1936; "Pursuing Spanish Bypaths Northwest of Madrid," January, 1931; "On the Bypaths of Spain," March, 1929; and "Land of the Basques," January, 1922.

Bulletin No. 3, October 18, 1937.

Photograph from Pio Noriega

POTES: EASTERN OUTPOST OF ASTURIAS, IS GUARDED BY TOWER AND TOWERING PEAKS

The Picos de Europa, highest in northern Spain's Cantabrian range, give to Asturias some of its lonely grandeur and rugged charm. Mountain climbers for sport and prospectors searching for zinc or lead make the village of Potes their base, from which trails lead to El Cerredo, the highest (8,668 feet), and Peña Vieja, a little more accessible. Tile roofs and houses of stucco are dominated by a 15th-century castle with a square tower, the Torre del Infantado.

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Rome-Berlin "Axis" as a Capital-to-Capital Highway

MUSSOLINI'S visit to Hitler has been termed another stage in the forging of a Rome-Berlin axis about which European politics may revolve. The "axis" is meanwhile being strengthened by active plans for an 800-mile superhighway linking Berlin with Rome, to be completed by 1941.

Arrow-straight wherever possible, free of grade crossings and speed limits, the new road will reduce motoring time between the two capitals to 14 hours.

The route is a slash almost due north across central Europe. Berlin lacks only two degrees of latitude of being mapped straight above Rome. Of the total length of the highway, 47 per cent will be in Italy. From there it will cross Austria and proceed north through Germany. Since it crosses Austria's western end, throughout the whole journey international motorists will drive to the right. It is in eastern Austria that "Keep to the left" is the rule of the road.

Links Two of Six Most Extensive Cities in the World

This highway of modern tempo will follow in places an ancient Roman *via*. Both then and now the route was chosen to promote trade and travel between the sunny Mediterranean shores of Italy and the northern-facing German plain.

The capitals at opposite ends of the road have many opposites in their respective histories. Berlin was a provincial city of somewhat over 300,000 people a century ago; Rome was a world power before the beginning of the Christian era. Today's Rome, with a million inhabitants, spreads its domes and florid towers over so much more than seven hills that it is a candidate for the title of the world's most extensive city.

Berlin ranks sixth in area, but has four times the population of its southern sister city. Industries do not figure in the activities of Rome; Germany's capital, on the other hand, is also her industrial center.

Through Towns Renowned for Lovers, Toys, and Guns

The road from Rome rolls north over the broad plain of the Campagna, and climbs out of the Tiber valley over Tuscan hills. Between Florence and Bologna, the road launches right over the Apennine range, the craggy shinbone which runs the length of the Italian boot. On the southern side lies the peaceful town of Pistoia, whose medieval name and iron-working fame survive in the modern pistol.

Bologna's brick wall and its famous pair of leaning towers disappear across the rich plain of the Po valley as Verona is approached. There, according to Shakespeare, was staged one of the world's greatest romances, the tragic love of Romeo and Juliet.

Passing the east side of Lake Garda, with its orange and olive grove border, the route to the north leaves the Lombardy plain and climbs Alpward through the Trentino district. Winding around hairpin curves and through tunnels (see illustration, next page) it reaches Brenner Pass, on the Austrian border.

Tyrol, the part of Austria's elbow that nudges Germany away from Italy, is the third largest of Austria's nine provinces. Native fashions here have set styles a half world away. This is the countryside where yodeling dairymen wear red and green coats over broad embroidered belts, and where peaked hats sport a chamois brush or a feather.

In the valley where the Inn River is cradled between two ridges of Alps, the

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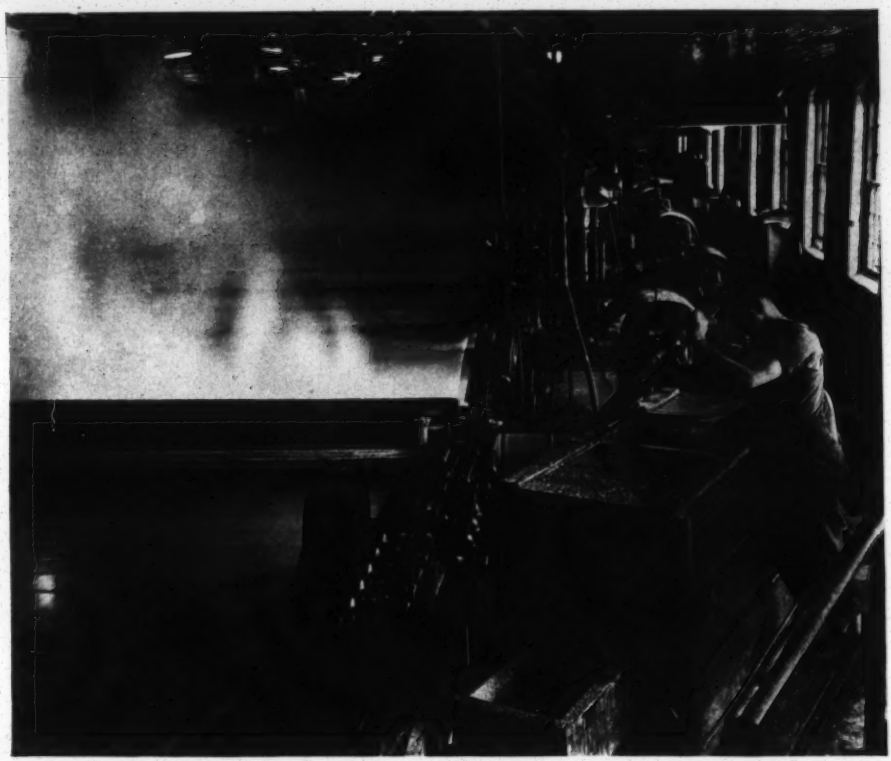
beth's jeweler took up junk-dealing as a sideline, gathering old rags and fishnets to maul into a pulp for paper.

As "Man Bites Dog" makes news, so "Wood Swallows Water" makes newsprint. From the moment a felled spruce log floats out of its native forest on the nearest creek's spring thaw, its journey to the presses is a matter of adding water or taking it away. Stripped of bark and shredded into fibers, the wood goes into a tub or "beater," where water is added and it is "whipped" like an egg for an omelette. Here it is dosed with chemicals, including aniline blue to make it white.

The result is liquid wood, 90 to 99 per cent water. It is poured over a broad belt in the paper machine and whisked through dryers where the water is sucked out (see illustration, below). The machine, at the rate of 500 feet a minute, turns out the dried thin film of matted wood fiber known as newsprint. The speed of its transformation from chips and splinters to news sheets, and the type of chemical treatment, determine its quality and distinguish it from the firmer book paper.

Note: Pictures and text about lumbering and making of newsprint are found in the following issues of the *National Geographic Magazine*: "On Goes Wisconsin," July, 1937; "Maine, The Outpost State," May, 1935; "Minnesota, Mother of Lakes and Rivers," March, 1935; "Old France in Modern Canada," February, 1935; "New York—an Empire within a Republic," November, 1933; "Ontario, Next Door," August, 1932; "New Hampshire, The Granite State," September, 1931; "Louisiana, Land of Perpetual Romance" also "Quebec, Capital of French Canada," April, 1930; "Michigan, Mistress of the Lakes," March, 1928; "Canada from the Air," October, 1926; and "Latvia, Home of the Letts," October, 1924.

Bulletin No. 4, October 18, 1937.



Photograph by B. Anthony Stewart

"HOT NEWS" IN THE MAKING AS PULP IS STEAMED AND PRESSED

Run through presses like clothes-wringers, wet paper then passes over a series of steam-heated rolling cylinders, each hotter than the one before, which are followed by smaller steel smoothing rolls. Finally the paper is either sprayed or rolled with chilled steel for cooling, slit to the proper size, and reeled as newsprint. This factory is in Park Falls, Wisconsin.

ancient town of "Inn's Bridge" has grown up to be modern Innsbruck, with 60,000 inhabitants, Austria's fourth largest city.

From Innsbruck the route north toils up to Germany, entering through a pass obligingly punched by a Tyrolian glacier aeons ago. From the Bavarian Alps, highest area in Germany, travel spills down into the South German basin of Bavaria, where the metropolis of München (Munich) buzzes with industries.

Nürnberg, across the Danube to the north, sticks to its traditional industry, the manufacture of playthings, and defends its title of "toy capital of the world." A distant view reveals a "toy" city apparently preserved from the Middle Ages for the delight of historians—towers of the moated castle and Gothic churches rising above the red gables of high-pitched old roofs. Toys of wood, celluloid, papier-mâche, and metal made in the city are joined by dolls from the surrounding countryside, carved during winter leisure in peasant cottages.

From Nürnberg the Rome-to-Berlin route turns eastward toward Leipzig, crossing the uplifted plateau of the Thuringer Wald. This forested area hums with little factories for glassware, textiles, munitions, wood products, and chemicals. From Leipzig the road will slash across the North German plain to Berlin.

Note: Italy, Austria, and Germany, through which countries runs the route of the Rome-Berlin Highway, are described in the following: "Imperial Rome Reborn," *National Geographic Magazine*, March, 1937; "Changing Berlin," February, 1937; "Entering the Front Doors of Medieval Towns," March, 1932; "Perennial Geographer" (Vergil), October, 1930; "Danube, Highway of Races," December, 1929; and "Renascent Germany," December, 1928.

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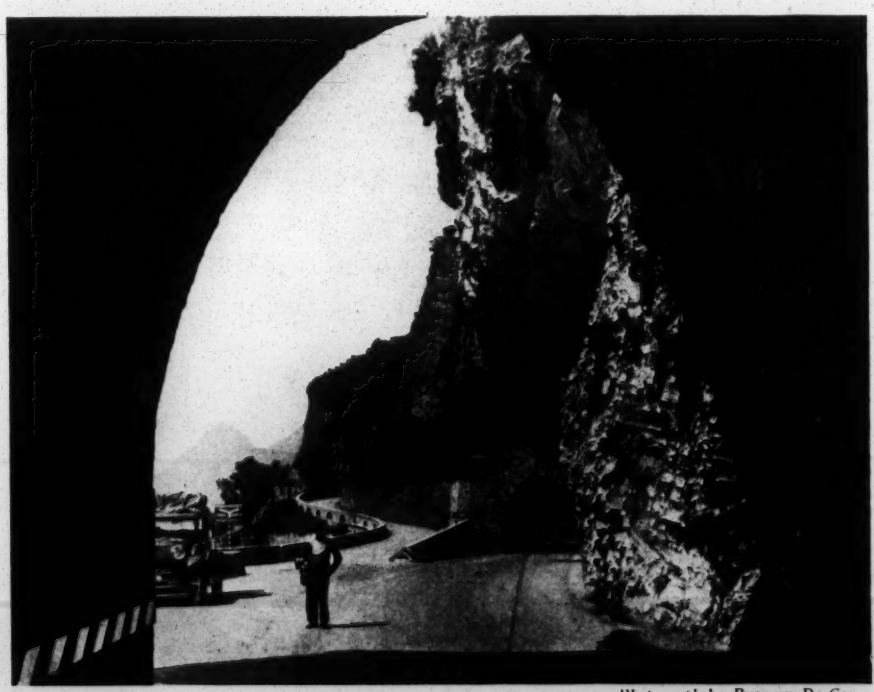

Photograph by Branson De Cou

MOUNTAINS ARE NO LONGER BARRIERS TO INTERNATIONAL TRAVEL

The road around Lake Garda in northern Italy pierces solid rock with tunnels, a hint of what is being done to link Rome and Berlin with a new high-speed highway. About half of the proposed route lies over mountains, between mountains, or at least through landscape with blue hints of hills around the rim. Here the Dolomites have weathered into limestone crags of fantastic ruggedness, a fitting transition from the plain of the Po to the Alps.